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The Day Indianapolis Died

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This account of Indianapolis being devastated by a nuclear holocaust is, of course, fictional, but the facts and statistics contained within are very real.

Indianapolis Monthly presents this article because as Professor Mason puts it, "It's important for people to know that the effects of a nuclear war are worse now than ever." The world isn't always as pretty as we would like it to be.

THE DAY INDIANAPOLIS

DIED If superpower
push comes to
shove, the Circle City ranks
high on the first-strike list.

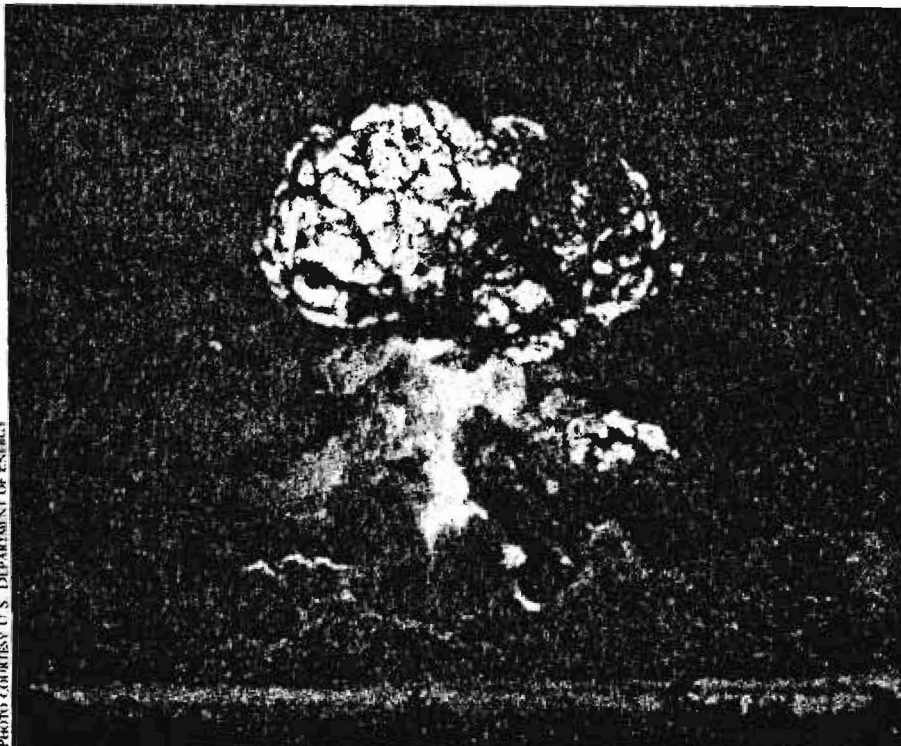


PHOTO COURTESY U.S. DEPARTMENT OF ENERGY

by David S. Mason
and Gary Kyzr-Sheeley

THE 1980s ARE A DANGEROUS PERIOD in world history. The United States and the Soviet Union, armed with more than 16,000 strategic nuclear weapons, continue large-scale development of more numerous and more sophisticated weapons. At the same time, the restraining influence of detente has withered because of Soviet actions in Afghanistan and Poland, the U.S. refusal to ratify the SALT II Treaty and a new hard line from the Reagan administration.

Both sides consider the possibility of fighting and "winning" a nuclear war, and are developing strategies and deploying weapons for that end. Strategists in the Pentagon argue that by having the capability to fight and win a "limited" nuclear war, our deterrent is more credible and war less likely. Critics contend that by planning to use nuclear weapons, a superpower conflict is more likely to lead to a nuclear exchange, and that such a conflict could hardly be controlled. A "limited" nuclear war would quickly escalate to a large-scale nuclear exchange.

If this occurs, Indianapolis is certain to be a target. The first volley of strategic nuclear weapons will probably be aimed at purely military targets, such as Grissom Air Force Base in Peru, nuclear submarine bases and intercontinental ballistic missile (ICBM) silos. But both sides have thousands of nuclear warheads left over for other

strategic targets and population centers.

The federal government has identified 15 likely targets in Indiana alone and Indianapolis is one of the most important. It is the 11th-largest city in the country and the state capital. Fort Benjamin Harrison, where the Army Finance Center provides paychecks to military personnel worldwide, is located here. Our city is a major industrial and commercial center serving as a hub for many Mid-western railroad lines and interstate highways. Detroit Diesel Allison, Naval Avionics and other firms here perform defense research or production.

Nuclear weapons have only twice hit cities: Hiroshima and Nagasaki, Japan, in August 1945. These were small bombs compared to today's weapons. But from the effects on these cities and the results of nuclear weapons testing, it is possible to sketch the likely consequences of a nuclear attack on Indianapolis.

When the Big One Hits

At 11:45 am on a cool Saturday morning in April, Marion County air raid sirens begin howling. Most residents of Indianapolis assume it's a test. Those curious enough to turn on their televisions or radios are confronted with grim-faced announcers repeating over and over: "This is NOT a test. A Soviet ICBM will detonate near Indianapolis in 15 minutes." There is some panic, but largely a feeling of hopelessness.

At 12:03 pm the SS-18 missile, carrying a 20-megaton warhead, explodes on Monument Circle. It is the largest warhead in the Soviet arsenal, 1,000 times more powerful than the American bomb dropped on Hiroshima. The blast digs a crater more than 500 feet deep and a half mile wide; the vaporized material tossed from this pit creates a rim nearly twice as wide. Buildings around Monument Circle are reduced to dust. Within the Mile Square, almost nothing remains. The State House, the Convention Center, Market Square Arena, and the Indiana National Bank building disappear. The Indiana War Memorial, slightly farther from ground zero and more sturdily built, is now a devastated hulk.

Nothing remains and nobody survives in the area bounded by 32nd

Street on the north, Troy Avenue on the south, Tibbs to the west, and Sherman to the east. The three primary effects of a nuclear explosion — blast, heat and radiation — combine to produce this total destruction. The blast effect itself crushes most people and destroys all buildings. At the edge of this perimeter, the blast creates winds of up to 650 mph.

Thermal effects are almost as devastating. A fireball with an initial internal temperature of 600,000 degrees Fahrenheit covers the entire 6-mile wide area, incinerating everything flammable. From 50 miles away, the fireball appears to be many times more brilliant than the noonday sun. Intense radiation blankets this inner area. Within two miles of the blast, radiation levels measure more than 30,000 rems. A dose of 1,000 rems causes death. Three miles away, the exposure reaches 750 rems or more, enough to kill 90 percent of the inhabitants of that area. All of this happens within five seconds.

Moments later, the destructive forces surge outward. At a distance of five miles from Monument Circle, the shock wave collapses most factories and commercial buildings. The Detroit Diesel Allison plants on South Tibbs are leveled. In Beech Grove and Speedway, virtually all of the homes are blown away and distributed as debris. At Butler University, blast winds of 300 mph completely level fraternity

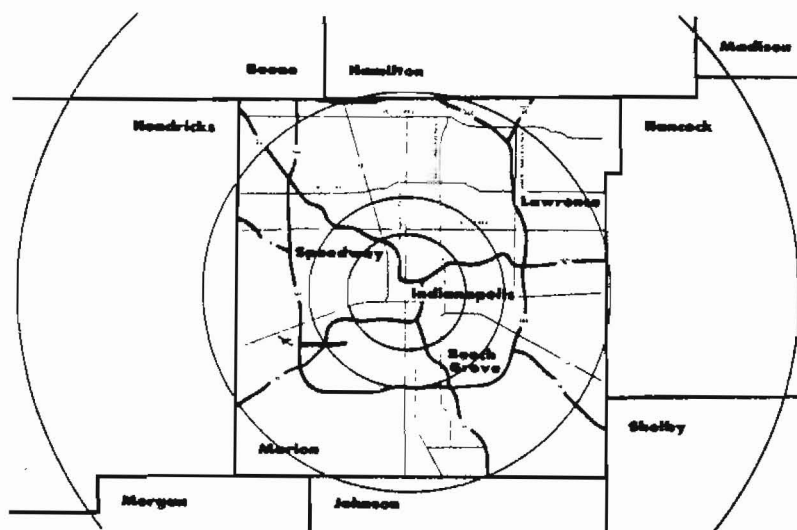
and sorority houses, Irwin Library and Lilly Hall. Clowes Hall collapses and Hinkle Fieldhouse is reduced to a pile of rubble inside a steel skeleton.

People suffer ruptured eardrums and lung hemorrhaging. Most of the injuries are caused by the impact of airborne debris, or by bodies being hurled against hard surfaces. Glass, bricks and other debris hurtle through the air at hundreds of miles per hour, killing thousands. But it's not just debris that is tossed around. At five miles from ground zero, the blast can pick up a 165-pound man and thrust him hundreds of feet at speeds of 100 mph.

The blast's intense heat ignites all flammable materials including wood, rubber and fabrics. Structure fires in residential areas rage for days. The direct effects of radiation at five miles are relatively slight, but people in this area are soon affected by the long term contamination of radioactive fallout. More than 100,000 people resided in this 5-mile circle before the attack. Only 5,000 of these survived, and almost all of them are seriously injured and will soon die.

In Marion County alone, the immediate effects of the explosion are 408,000 killed, 200,000 seriously injured, and only 147,000 relatively unharmed. Many of them, though, will shortly be exposed to lethal doses of radioactive fallout.

The blast and thermal effects of the



This map charts levels of immediate destruction in a 20-megaton nuclear explosion on Indianapolis. The smallest circled area (radius 3 miles) experiences total destruction with no survivors. The 2nd circle (radius 3-5 miles) marks an area where most buildings are destroyed and 95 percent killed. The 3rd circle (radius 5-10 miles) finds most homes destroyed and 25 percent of the residents killed with 45 percent of the others injured. In the outer circle (radius 10-20 miles) most homes are damaged and 25 percent of the population injured.



Aftereffects of a nuclear explosion on Indianapolis include radioactive fallout over a large area. In seven days, persons living in the smaller ellipse would be exposed to 2,400 rems of radiation. Persons in the larger ellipse would be exposed to 560 rems. A dose of 600 rems causes severe radiation sickness from which 90 percent would die. Exposure to 1,000 rems is fatal.

bomb spread far beyond the 5-mile zone. At the very limits of Marion County, 10 and 11 miles from ground zero, the shock of the explosion blows in the walls of steel-frame buildings and severely damages residences. Winds of more than 100 mph blow away the malls at Castleton, Washington and Lafayette Squares. Indianapolis International Airport is destroyed as is everything at Fort Benja-

min Harrison.

People exposed to the blast from as far away as Noblesville and Franklin suffer third-degree burns on their faces and hands. Heat from the blast inflicts second-degree burns 27 miles from Monument Circle, and first-degree burns up to 31 miles away. In Greenwood, Mooresville, Plainfield, Brownsburg, Zionsville and Carmel, between a quarter and one half of the

population suffer from injuries and require medical care.

While the blast devastated Indianapolis almost immediately, the long-range effects of radioactive fallout have just begun. Within seconds of the explosion a mushroom cloud rises to a height of 22 miles and a width of 75 miles. The cloud includes millions of tons of particles of vaporized soil and debris made radioactive in the fireball. This is fallout.

Ten minutes after the blast, fallout descends on Marion County, exposing survivors to lethal doses of radioactivity. Fifteen mph winds from the southwest spread the radioactive cloud in an elliptical pattern along Interstate 69 creating a lethal zone 100 miles downwind within four hours. In this area, which includes Anderson and Marion, almost everyone unshielded from the radiation dies within two weeks. Even those who sought shelter in basements contract radiation sickness and suffer from vomiting, loss of hair, ulceration of the skin, bleeding and infection. Without medical attention, including blood transfusions and antibiotics, many of these people die. In the outer ellipse, stretching all the way to Michigan, and including Kokomo, Muncie and Fort Wayne, dangerously high levels of radioactivity filter into the atmosphere.

In the aftermath of the attack, especially in the Indianapolis area, little

The Chance of Survival in Indianapolis

Until recently, U.S. emergency preparedness officials attempted to minimize damage to civilians in nuclear attacks by issuing warnings through the Public Warning

Siren Network and the Emergency Broadcast System and by identifying fallout shelters and stocking them with provisions. Sirens are scattered throughout In-

dianapolis and warn of both weather and national security emergencies. A steady three-minute blast signals a weather emergency; a varying tone of three minutes or longer means a national security emergency. The Emergency Broadcast System operates through commercial radio and television and informs people of action to be taken in the event of a nuclear attack.

As of June 30, 1981 the Indianapolis Division of Emergency Management and Civil Defense identified 1,220 facilities suitable for fallout shelters in Marion County. Most shelters are located in sturdy, large buildings such as those found on the Circle, at Indiana University-Purdue University at Indianapolis, or in the Eli Lilly complex. These facilities con-



A U.S. nuclear bomb devastated Hiroshima, Japan in 1945 to end World War II.

The blast digs a crater more than 500 feet deep and a half mile wide; the vaporized material tossed from this pit creates a rim nearly twice as wide. Buildings around Monument Circle are reduced to dust. Within the Mile Square, almost nothing remains.

possibility exists for medical care. Marion County had 4,775 general hospital beds before the attack. None of these are available afterwards. Most of the major hospitals, including Indiana University, Methodist, Riley,

University Heights, Winona and Wishard are destroyed. Community and St. Francis hospitals also suffered major damage. Only St. Vincent Hospital remains standing, but its walls and windows are blown in, and most of the equipment is useless. While a few of the hospitals in the six counties surrounding Indianapolis stand relatively undamaged, they total only 764 beds. This is pathetically inadequate for the injured in those counties, much less for the hundreds of thousands of casualties in Marion County.

Of 1,900 doctors in the county, all but 400 are dead or injured. Even if each of them works 16 hours a day, spending only 15 minutes with each patient, it would take more than a week to see all of the injured. With the destruction of transportation and communication lines and rubble blocking many streets, this feat is impossible.

While these initial effects of the nuclear explosion are horrible, the long-term ones are almost as grim. The hundreds of thousands of bodies in various states of decay pose an immediate public health hazard and a gruesome logistical task of disposal. Infection and disease spread, particularly among those weakened by injuries and radiation sickness. Even those lucky enough to escape injury in the attack have nowhere to live because most houses in the county are de-

stroyed. Contaminated food and water, lack of transportation, electricity and heat compound the dire situation.

These are only the immediate effects of just one bomb on one city. Soviet missiles also struck fourteen other areas in Indiana and thousands of other targets throughout the United States. Although the United States retaliated with its 9,000 warheads, few Americans gain comfort from the thought that Soviet citizens are also suffering. In this war, there are no winners.

Will the Day of Reckoning Really Come?

Of course, such a holocaust has not yet occurred, but it could. A brief encounter with the nuclear age in 1945 offered no clear and long-lasting lessons to world leaders vested with responsibility for national defense. In the years since then, numerous attempts have been made to eliminate or control nuclear weapons, but none have succeeded.

The complexity of the nuclear issue breeds confusion, making it difficult for world public opinion to halt the nuclear arms race. The world has limped and lurched along in the bliss of ignorance interrupted only by spasms of attentiveness and forebod-

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tain 2.6 million spaces with approximately half providing a minor degree of protection from a nuclear explosion.

The warning systems remain in place and operative but the sheltering system is being replaced by a plan for "crisis relocation." Currently only 356 facilities in Marion County are posted as fallout shelters and the food and water they once contained have long since become contaminated. Only the few medical supplies which can resist the passage of time remain. Sheltering has been abandoned because potential enemies now possess many accurate and destructive weapons which render fallout shelters obsolete. Under an attack like the one previously described, fallout shelters would be nothing more than crypts.

Occupants would be incinerated, or die from asphyxiation, exposure or starvation.

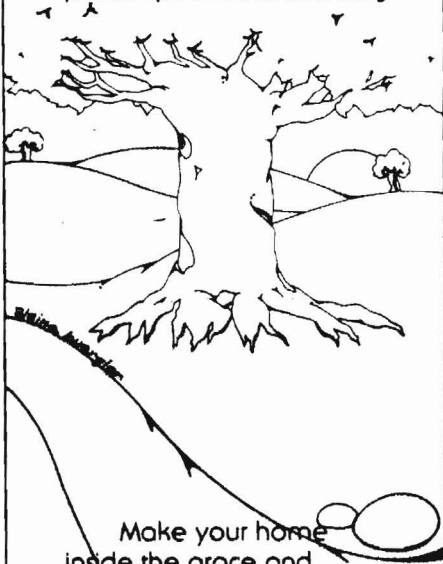
Crisis relocation calls for evacuating people from high-risk areas like Marion County and moving them to host counties in the surrounding area where they will be safe from the immediate effects of nuclear explosions. The Marion County Civil Defense Office is currently working on a crisis relocation plan. At first glance evacuation seems a more effective alternative than sheltering, but one should recognize that the effectiveness of an evacuation plan would depend on how a nuclear crisis unfolded.

Relocating hundreds of thousands of people is a colossal undertaking. Large traffic jams would almost certainly occur.

Some evacuation areas could be overwhelmed and others underutilized. Food, water and shelter would have to be provided for all evacuees. Changing winds could expose people to lethal doses of radiation in areas presumed to be safe. People might not obey an evacuation order. If an attack occurs during an evacuation, more people might die than if evacuation had not been ordered. Issuance of an evacuation order could increase the perceived threat of war and destabilize a crisis. Evacuation could be completed and then a nuclear attack might be launched against the refugee camps. And unfortunately, the fundamental flaw in crisis relocation is that an attack might occur too quickly to set the plan in motion.

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THE DAY INDIANAPOLIS DIED

Continued from page 59

ing precipitated by such events as "the missile gap," the Cuban Missile Crisis and the mining of Haiphong Harbor.

Concurrent with this failure to come to grips with nuclear weapons, the global military/political environment has changed radically. These changes increase the likelihood of nuclear war and ensure that it will wreak unimaginable havoc.

The Question of Deterrence

The world's nuclear club currently stands at six with several states aspiring to nuclear status, some possessing the potential to go nuclear in the near future, and some believed to be closet nuclear powers, e.g., South Africa, Taiwan and Israel. It is conceivable that the nuclear club will grow to more than 20 states before the turn of the century. The fact that many states hold nuclear weapons, and those most likely to acquire them represent volatile areas of the world, enhances the probability of a nuclear weapon being fired in anger. Should this occur, especially among client states of the United States and the Soviet Union, the superpowers could find themselves facing a nuclear showdown.

Regional political tensions increased throughout the 1970s, especially in the developing world. Such tensions may encourage a politically isolated regional power like Israel to acquire and employ nuclear weapons against her more numerous Arab neighbors. The reverse holds true as well, and the recent Israeli raid on an Iraqi nuclear reactor demonstrates that the Israelis fear such an eventuality.

Technological advances make possible the production of very small nuclear weapons. If even one of these weapons falls into the hands of extremists, it is probable some government(s) would be blackmailed and it is possible the weapon would be detonated.

By far the greatest threat to world peace is posed by a head-to-head conflict between the superpowers. The age of detente, which characterized U.S.-Soviet relations in the late 1960s and early 1970s, has given way to mu-

tual suspicion and a resurgent cold war mentality. This development, together with qualitative and quantitative improvements in the nuclear arsenals of the superpowers, enhances the possibility of war. Moreover, the apparent vulnerability of certain types of nuclear weapons has given rise to serious consideration of counterforce strategies which imply that nuclear war is both fightable and winnable. Acceptance of any such idea makes nuclear war more likely.

Our only means of defense against nuclear attack is psychological. Stated U.S. policy calls for nuclear deterrence, which simply means that we aim to deter nuclear attack by convincing all potential aggressors that the losses we would inflict on them in retaliation would cancel out or exceed any gains they could hope to attain by their pre-emptive attack. Both superpowers maintain air defense and early warning radar systems, but even if these systems operated at peak efficiency they would result only in a few bombers shot down and a 15-20 minute warning to populations. Neither side possesses an anti-ballistic missile (ABM) capability to shoot down incoming missiles and both have signed a treaty whereby they agree to limit testing and deployment of such systems because they undermine mutual deterrence. The technology for an effective ABM system does not exist and will not in the foreseeable future. Therefore, once an ICBM is fired, only a technical malfunction can keep it from hitting its target.

A full-scale nuclear strategic exchange between the Soviet Union and the U.S. would cause inestimable destruction in terms of lives and property, fundamentally altering life on this planet. All cities and major towns in the country would be destroyed; the social, economic and political structure of the nation would collapse. Although some rural areas would be unaffected by the immediate effects of thousands of nuclear explosions, a vast wave of nuclear fallout would soon sweep across the nation killing or injuring many of those previously unaffected and contaminating most of the remaining water and food stocks. All communications with the remainder of the world would cease. All goods and services previously obtained from other areas of the country would no longer be available. There would be no help from the outside for Indiana. •